

ABSTRACT OF THE DISCLOSURE

A double-acting, reciprocating piston, high discharge pressure, cryogenic fluid pump having a unique blow-by venting system. In two different embodiments, a double-acting piston has two pair of piston heads and two sets of seals. In a first embodiment, a blow-by vent system is provided by a passageway that communicate with the cylinder between the pair of piston heads and vents the vapor or fluids axially through the piston rod. A second embodiment has the two piston heads separated on the piston rod a distance equal approximately to the stroke of the piston. This provides an annulus around the piston rod forming a manifold in communication with passageways through the pump cylinder wall to vent blow-by vapors or fluids. In both cases, blow-by vapors or fluids that leak or creep past the piston heads are vented to the liquid being pumped inside an insulating enclosure surrounding the pumps.